Ordering number: EN 4424

Monolithic Linear IC

No.4424

SANYO

LA6512,6513

High-Voltage Dual Power Operational Amplifiers

Overview

LA6512 (SIP10F) and LA6513 (SIP10) are power operational amplifier ICs capable of withstanding high voltages of ±30 V/1 A and are best suited for such voltage division devices as LCD drivers and general-purpose power operational amplifiers.

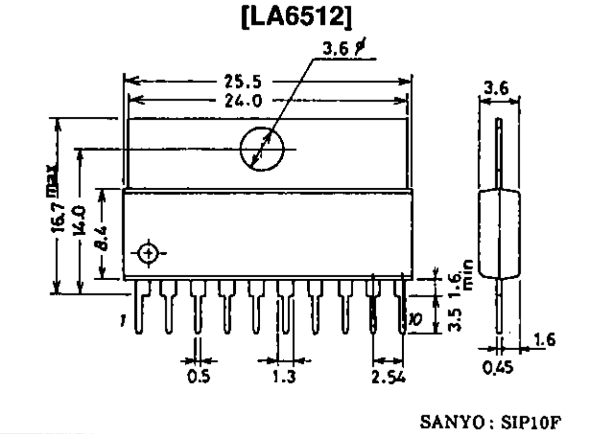
Features

- High output current (I_O max = 1.0A)
- High gain
- Equipped with current limiter pin (Adjustable by external settings)
- Supports single power source operation
- Withstands high voltages (±30 V)

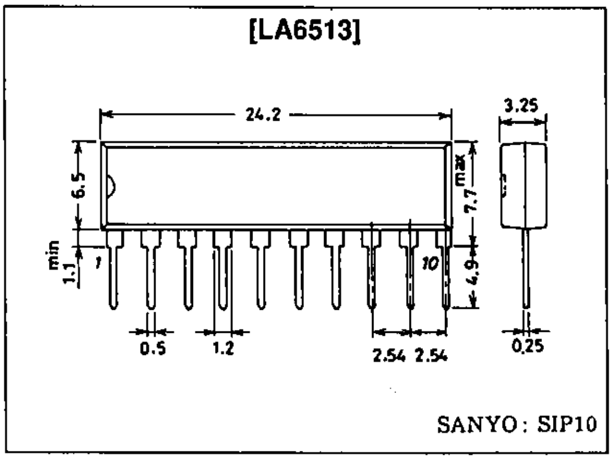
Package Dimensions

unit : mm

3046B-SIP10F



3043A-SIP10



Specifications

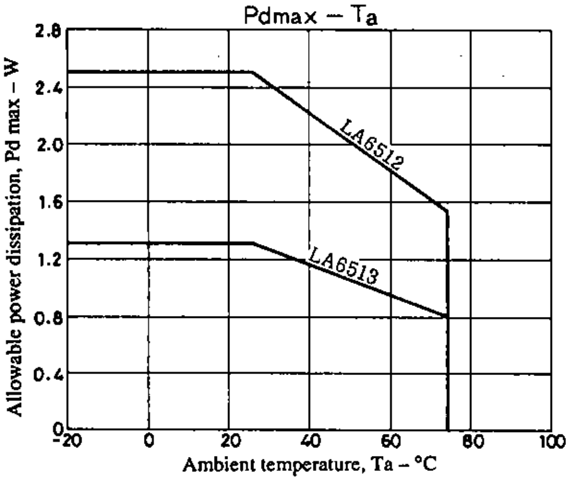
Maximum Ratings at Ta = 25°C

				unit
Maximum supply voltage	V_{CC}/V_{EE} max		±30	V
Differential input voltage	V_{IDIF}		56	V
Common mode input voltage	V_{ICOM}		±28	V
Maximum output current	I_O max		1.0	A
Allowable power dissipation	Pd max	LA6512	2.5	W
		LA6513	1.3	W
Operating temperature	Topr		–20 to +75	°C
Storage temperature	Tstg		–55 to +150	°C

SANYO Electric Co.,Ltd. Semiconductor Business Headquarters
TOKYO OFFICE Tokyo Bldg., 1-10, 1 Chome, Ueno, Taito-ku, TOKYO, 110 JAPAN

Operating Characteristics at Ta = 25°C, V_{CC}/V_{EE} = ±15

			min	typ	max	unit
No-load dissipation current	I_{CCO}		6	12	20	mA
Input offset voltage	V_{IO}	Rs≤10kΩ		2	6	mV
Input offset current	I_{IO}			10	200	nA
Input bias current	I_B			100	700	nA
Common mode input voltage range	V_{ICM}		–14		13	V
Common mode signal rejection ratio	C_{RM}		70	80		dB
Maximum output voltage	V_O max		±12	±13		V
Voltage gain	VG_O			100		dB
Slew rate	SR	G_V = 0, R_L = 33Ω, R = 2.2Ω, C = 0.1μF		0.15		V/μs
Supply voltage rejection ratio	SVRR			30	150	μV/V
Limiting current	I_{SC}	R_{SC} = 2.2Ω		0.35		A

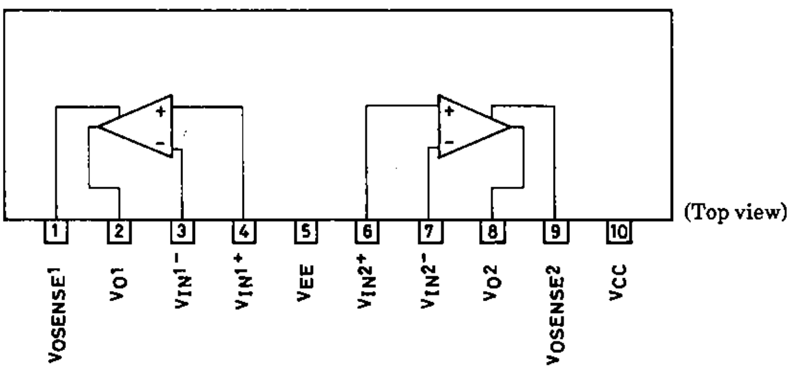


Information (including circuit diagrams and circuit parameters) herein is for example only ; it is not guaranteed for volume production.

SANYO believes information herein is accurate and reliable, but no guarantees are made or implied regarding its use or any infringements of intellectual property rights or other rights of third parties.

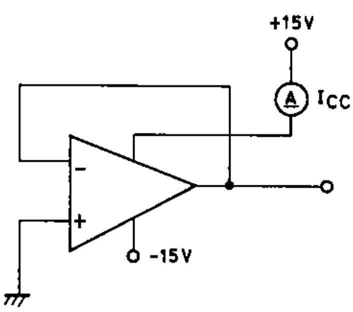
Pin Assignment

(LA6512, 6513 common)

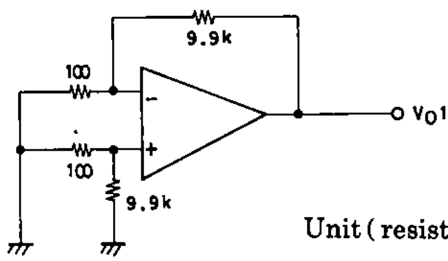


Test Circuit

I_{CC}



V_{IO}, SVRR



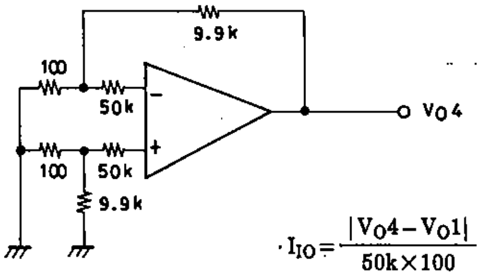
Unit (resistance:Ω)

- V_{IO} is with V_{CC}/V_{EE} = ±15 V
- SVRR is with [V_{CC} = 15,5V / V_{EE} = –5, –15V]
- V_{IO} = V01/100
- SVR (+) / SVR (–) $= \left| \frac{\Delta V_O 1}{100 \times 10V} \right|$

Continued on next page.

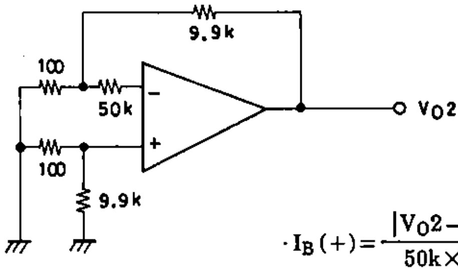
Continued from preceding page.

I_{IO}



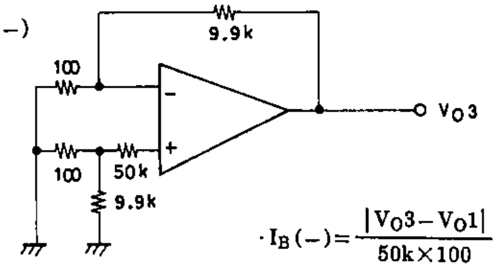
$$\cdot I_{IO}=\frac{|V_{O}4-V_{O}1|}{50k\times100}$$

$I_B(+)$



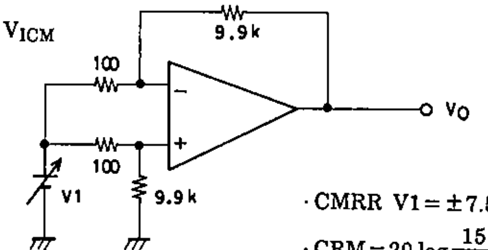
$$\cdot I_B(+)=\frac{|V_{O}2-V_{O}1|}{50k\times100}$$

$I_B(-)$



$$\cdot I_B(-)=\frac{|V_{O}3-V_{O}1|}{50k\times100}$$

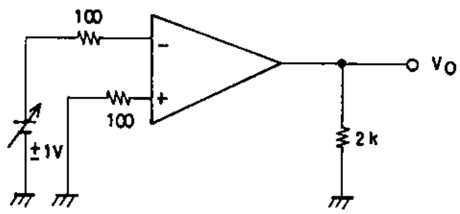
CMRR, V_{ICM}



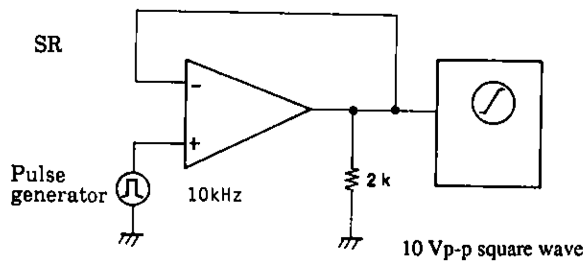
$\cdot$CMRR $V1=\pm7.5V$

$$\cdot CRM=20\log\frac{15\times100}{|\Delta V_O|}$$

V_O

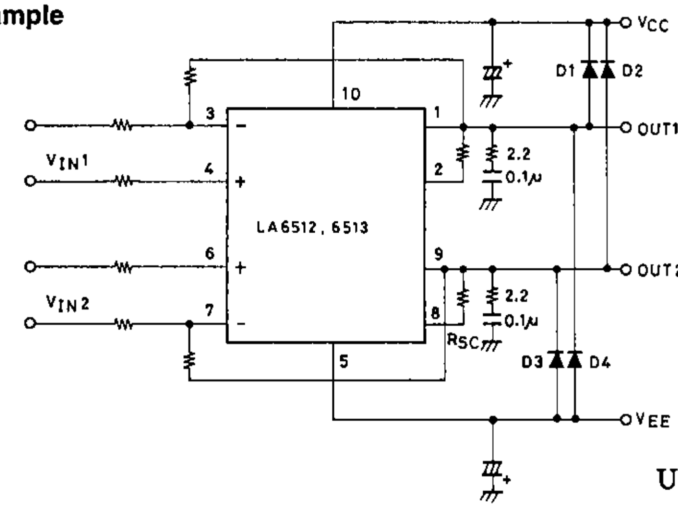


SR



10 Vp-p square wave

Application Circuit Example



Unit (resistance:Ω capacitance:F)

Note: When driving an inductive load, a D1 to D4 protective diode should be installed.

